11 (2, 4) PHASE I BOOK EXPLOITATION SOV/2213

Groznyy. Neftyanoy nauchno-issledovatel'skiy institut

Khimiya i tekhnologiya pererabotki nefti i gaza (Chemistry and Tech-
nology of Petroleum and Gas Refining Processes) Moscow, Gostop-
tekhizdat, 1959. 278 p. (Series: Its: Trudy, vyp. 4) 2,500
copies printed.

Executive Ed.: T.D. Yefremova; Tech. Ed.: A.S. Polosina; Editorial
Board: A.Z. Dorogochinskiy (Chairman), B.K. Amerik, G.I. Kaz'min,
N.N. Kamakin, V.I. Lavrent'yev, Ye.S. Levchenko, and M.G. Mitro-
fanov (Deputy Chairman).

PURPOSE: This book is intended for petroleum engineers and technicians
in scientific research institutes, planning organizations, and
refineries.

COVERAGE: This collection of technical papers on oil and gas refining
were originally discussed at the petroleum refining section of the
Third GrozNII Scientific-Technical Congress in 1957. The articles
have been published to help further the development of the petroleum
refining industry and petrochemical industry in the Chechen-Ingush
ASSR. The history and significance of the petroleum refining in-
dustry in the Groznyy region is outlined by A.Z. Dorogochinskiy
with emphasis on the interdependence of the refineries and the
aircraft, automobile and rocket manufacturing industries. Change
in modern engines demand a change in fuel and lubricating oil
properties. The increased use of jet aircraft makes the produc-
tion of high octane aviation gasoline less important than the
production of the new type of fuel, aviation kerosene, the yield
of which requires a quite different refinery run. Since crudes
recovered at the Karabulak-Achaluki fields represent a valuable
raw material for manufacturing lubricating oil and paraffin wax,
their properties have been thoroughly investigated and results of
analyses reviewed. The re-equipment of the fuel producing line
of refineries at Groznyy has been carried out on the basis of
findings obtained from tests and pilot plant operations, and a
number of reforming and platforming units have been built to up-
grade the low octane gasoline produced at Groznyy. Tests were
also conducted to ascertain the advisability of applying the
destructive distillation of residues, which yields solar fractions
badly needed for catalytic cracking unit as feed stock. Catalytic
cracking units of the 43-102 type were first put on stream in the
Groznyy refineries in 1952, and since that time continuous efforts
have been made to boost their processing capacity, and improve the
regeneration of catalysts. The authors make a number of sugges-
tions as to how the throughput of the above units might be in-
creased. The production of different types of pelleted and bead
catalysts, the contamination of catalysts and their reactivation
are discussed. The operation of a contact coking reactor, its
design, and products yielded by contact coking units are described.
The authors also deal with the manufacture of lubricating oils,
paraffin and ceresine wax and indicate way of improving their
properties. Electrical dehydration and desalting of crude oil and
of light products are discussed. The authors state that in recent
years extensive studies were made on the chemical conversion of
petroleum products, and particularly of gases. As a result, a
number of gas fractionators and compressors were built and installed
to produce phenol and acetone from propylene and benzene, to syn-
thesize ethyl alcohol and oxidize paraffinic hydrocarbons. An
article is devoted to problems of automating various processes and
developing the related control and gage instruments. The book
contains numerous tables with the characteristics of different
petroleum products obtained from refinery processing units, pilot
plants and petrochemical refinery sections. Each article is
accompanied by references.

TABLE OF CONTENTS:

contains numerous [illegible] with the characteristics of different petroleum products obtained from refinery processing units, pilot plants and petrochemical refinery sections. Each article is accompanied by references.

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Nazaretova, N.B., A.A. Bashilov, B.K. Amerik, P.I. Krechetova, P.V. Ovsyannikov, and A.P. Sukhorebrikov. Refinery Experiments with Destructive Distillation of Mazout 48

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Mitrofanov, M.G., S.I. Stepuro, V.V. Serov, and K.V. Kvashnin. Experimental Treatment of Sulfurous Petroleum Residue (Goudron) With Tow-component Selective Solvent, as Applied in the Refining Industry 166

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contains numerous tables with the characteristics of differ petroleum products obtained from refinery processing units, pi plants and petrochemical refinery sections. Each article is accompanied by references.

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Mitrofanov, M.G., O.A. Artem'yeva, and Ye.V. Karaybog. Production of the MK-8 Lube Oil From Malgobekskaya, Zhirnovskaya, and Anastas'yevskaya Crudes 183

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Igonin, P.G., I.D. Desyatova, N.A. Pashenko, and V.I. Zavidov. Some Data on the Oxidation of Hard Paraffin Wax in the Presence of Permanganate, Naphthenate, and Manganic Carbonates 224

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AVAILABLE: Library of Congress

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8-24-59

STAROSTIN, A. I., Cand Phys-Math Sci (diss) -- "Cleavage in periodic groups". Sverdlovsk, 1960. 7 pp (Min Higher and Inter Spec Educ RSFSR, Ural State U im A. M. Gor'kiy), 150 copies (KL, No 15, 1960, 131)

STAROSTIN, A.I.

Periodic locally solvable groups with complete splitting.
Izv. vys. ucheb. zav.; mat. no.2:168-177 '60. (MIRA 13:7)

1. Ural'skiy gosudarstvennyy universitet im. A.M. Gor'kogo.
(Groups, Theory of)

KONTOROVICH, P.G.; PEKELIS, A.S.; STAROSTIN, A.I.

Problems concerning structure in the theory of groups. Mat.
zap. Ural. mat. ob-va UrGu 3 no.1:3-50 '61.
(MIRA 19:1)

STAROSTIN, A.I.; EYDINOV, M.I.

Sylow bases of infinite groups. Sib.mat.zhur. 3 no.2:273-279 Mr-Ap '62. (MIRA 15:4)

(Groups, Theory of)

STAROSTIN, A.I.; EYDINOV, M.I.

Hall semigroups of a class of invariently coverable groups. Sib. mat. zhur. 4 no.2:359-376 Mr-Ap '63. (MIRA 16:3)
(Groups, Theory of)

BUSARKIN, V.M.; STAROSTIN, A.I. (Sverdlovsk)

Splittable locally finite groups. Mat. sbor. 62 no.3:275-294 N '63. (MIRA 16:11)

BUSARKIN, V.M.; STAROSTIN, A.I.

Finite indecomposable groups, all subgroups of which have
abelian decomposition. Mat. zap. Ural. mat. ob-va UrGu 4 (MIRA 17:9)
no.1:22-31 '63.

BUSARKIN, V.M.; STAROSTIN, A.I.

Finite groups, all characteristic subgroups of which display nilpotent splitting. Izv. AN SSSR Ser.mat. 29 no.1:97-108 '65. (MIRA 18:4)

STAROSTIN, A.I., kand.fiz.-matem.nauk

Symposium on the theory of groups. Vest.AN SSSR 35 no.6:111-112 Je '65. (MIRA 18:8)

STAROSTIN, A.I. (Sverdlovsk)

Partition of locally finite groups. Mat. sbor. 66 no.4:551-567 Ap '65. (MIRA 18:6)

STAROSTIN, A.I.

Groups with decomposable centralizers. Izv. AN SSSR. Ser. mat. 29 no.3:605-614 '65. (MIRA 18:6)

STAROSTIN, A.K.

CATEGORY : Forestry. Forest Biology and Typology.

ABS. JOUR. : Ref Zhur-Biologiya, No. 5, 1959, No. 20121

AUTHOR : Falaleyev, E.N.; Starostin, A.K.
INST. : Sibirsk Forest Technology Inst.
TITLE : Dark Conifer Woods on the Eastern Slope of Yenisey Ridge

ORIG. PUB.: Tr. Sibirsk. lesotekhn. in-ta, 1957, sb. 16, 57-62

ABSTRACT : Characterization is given of the cowberry, stream-side and sphagnum moss spruce woods, as well as the true moss and sphagnum cedar woods found in the Teya River basin. It is mentioned that the spruce and cedar woods are not extensively distributed there, are of one typological form, are characterized by over-maturity, low productivity and a significantly high percentage of defectiveness. There are usually about 20 - 30 kg/ha of cedar cones during

CARD: 1/2

STAROSTIN, A. M.

"Investigation of the Pivot Journals of FieldAstronomical Instruments." Sub 2 Nov 51, Moscow Inst of Engineers of Geodesy, Aerial Photography and Cartography, Ministry of Higher Education USSR

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

STAROSTIN, A.M.

P. 4-5-C

3(1) PHASE I BOOK EXPLOITATION SOV/3239

Leningrad. Tsentral'nyy nauchno-issledovatel'skiy institut geodezii, aeros"yemki i kartografii

Issledovaniya po astronomii (Research in Astronomy) Moscow, Geodezizdat, 1959. 123 p. (Series: Its: Trudy, vyp. 124) Errata slip inserted. 1,000 copies printed.

Sponsoring Agency: USSR. Glavnoye upravleniye geodezii i kartografii.

Ed.: A. N. Kuznetsov; Ed. of Publishing House: T. A. Shamarova; Tech. Ed.: V. V. Romanova.

PURPOSE: This collection of articles is intended for geodesists and astronomers.

COVERAGE: This issue of the Institute's Transactions contains papers on new methods of time determination, joint determination of latitude and time, and the degree of accuracy in determining Laplace

Card 1/6

azimuths. References accompany individual articles.

Kolupayev, A. P. New Method of Determining Time by the Tsinger and Dellen Systems Using a Contact Micrometer 3

The author describes improvements in making time observations by the Tsinger and Dellen systems. Experience has shown that the Tsinger system is best for determining time below the 70th parallel, and that the Dellen system is best north of this line. To improve Tsinger star pair observations a new device has been developed which saves time by eliminating the need of compiling star ephemerides beforehand and by doing away with the need of using tables of parallactic angles. According to the new system, the orientation of stars in the field of vision of the tube is carried out in the same way it would have been done in the old system in cases where the parallactic angles of both stars in the pair are equal. To lessen the residual effect due to an incline in the moveable hair on the observational results, a special device has been developed to be attached to the micrometer to facilitate bringing the hair into horizontal position with the necessary precision. To improve the Dellen system the TsNIIGAiK (Central Scientific Research Institute of Geodesy, Aerial Surveying, and Cartography) has proposed introducing a new technique developed by V. V. Karakulin of the Novosibirsk Aero-geodetic Establishment. The TsNIIGAiK had, in 1951, worked out a method of determining time according to the Dellen System in which the southern star alone is observed by two positions of the circle with readings of the horizontal limb between observations. Karakulin's method further eliminates the need of making readings of the horizontal limb. The article contains diagrams, charts, and other illustrative data. There are 2 Soviet references.

Kolupayev, A. P. Joint Determination of Time and Latitude From Differences in Zenith Distances and in the Azimuths of Bright Stars 43

After discussing the shortcomings of the Somner method (the small number of satisfactory star pairs for daytime observations and the great effect vertical distortions have on the latitude and hour corrections), the author discusses the theoretical basis for a system of joint determination. According to the author, the latitude of a place can be determined by measurements of the zenith distances of a star pair near a meridian if the chronometer correction is known, and that the chronometer correction can be determined by the difference in azimuths of two stars near a meridian if the latitude of the place is known. If, the author argues, the zenith distances and the difference of azimuths of star pairs could be measured, both the latitude and the chronometer correction could be determined. Sample computations are given. Experimental data are given. A reference to a work by I. Zhongolovich is included in the text.

Starostin, A. M. Investigating the Accuracy of Determining Laplace Azimuths 63 from stars at different zenith distances (the S. S. Uralov method), The author lists results of the studies. Astronomers A. P. Kolupayev, Ya. P. Loparev, Ye. M. Orlova, R. R. Vul'f participated in the studies as did geodesist I. N. Meshcherskiy. There are 8 Soviet references.

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KOLUPAYEV, Aleksey Petrovich; MAUYERER, Vol'f Gertsevich; STAROSTIN, Anatoliy Mikhaylovich; KHALKHUNOV, V.Z., red.; VASIL'YEVA, V.I., red.izd-va; ROMANOVA, V.V., tekhn.red.

[Practical handbook on geodetic astronomy] Prakticheskoe rukovodstvo po geodezicheskoi astronomii. Moskva, Izd-vo geodez. lit-ry, 1962. 314 p. (Moscow. TSentral'nyi nauchno-issledovatel'skii institut geodezii, aeros"emki i kartografii. Trudy, no.148). (MIRA 16:5)
(Astronomy)

STAROSTIN, A.M.

Direct determination of the geodetic azimuth. Geod.i kart.
no.8:3-12 Ag '62. (MIRA 15:8)
(Azimuth)

ACC NR: AR6021237 SOURCE CODE: UR/0271/66/000/003/B056/B056

AUTHOR: Lisitsyn, G. F.; Starostin, A. N.

TITLE: Operating principle of core transistor digital elements

SOURCE: Ref. zh. Avtomat telemekh i vychisl tekhn, Abs. 3B467

REF SOURCE: Tr.Mosk. energ. in-ta, vyp. 60, 1965, 13-24

TOPIC TAGS: computer circuit, switching circuit, logic element

ABSTRACT: The operating principle and the physical processes occurring in the core-transitor elements are analyzed. A simplest example of a loaded core-transistor element together with related oscillograms illustrating its operation are given. The variation of the core's magnetic state in the core-transistor element is shown. The transmission characteristic of the core-transistor element is analyzed as a function of the transistor collector load, transistor characteristics, supply voltage, and the number of transistor base windings. The effect of introducing back bias is investigated. Two methods of realizing logic operations using core-transistor elements are examined: by application of special signals to the storage transformer input windings controlling its magnetic flux, and by switching on the transistors of the corresponding elements. [Translation of abstract] 9 illustrations and bibliography of 2 titles.
V. M.

SUB CODE: 09
Card 1/1 UDC: 681.142.67:621.318.136

ACC NR AR6017154 SOURCE CODE: UR/0275/66/000/001/B027/B027

34

AUTHOR: Starostin, A. N.

TITLE: Dynamic characteristics of alloyed semiconductor triodes operating at the input of the switching mode, close to the voltage source

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 1B212

REF SOURCE: Tr. Mosk. energ. in-ta, vyp. 60, ch. 1, 1965, 129-147

TOPIC TAGS: pn junction, minority carrier

TRANSLATION: Dynamic characteristics and parameters describing the behavior of a semiconductor triode in a switching mode when it is switched off from the pulsed voltage source is examined. A method of calculating switching stages is proposed. This method is based on an analysis of charge, neglecting recombination processes in the base of the semiconductor. It is assumed that the potential of pn junction changes linearly and that the duration of the transition process is considerably less than saturation time and the lifetime of minority carriers in the base. It is further assumed that the rise and fall of the collector current is linear. The integral transition parameter ψ is introduced. This parameter is defined as the ratio between the area of the pulse voltage which brings the triode to the saturation state, and the saturation current which is related to the triode parameters, given in the technical specifications. The

UDC: 621.382.3

Card 1/2

L 09958-67

ACC NR: AR6017154

magnitude of ψ sufficiently describes the dynamic properties of the triode when it is switched off from the pulse voltage source. 8 references. V. K.

SUB CODE: 09

Card 2/2

S/194/61/000/010/031/082
D222/D301

9.4310

AUTHORS: Kaganov, I.L., Starostin, A.N. and Shustov, S.S.

TITLE: The base resistance of transistors in pulse operation

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 10, 1961, 32, abstract 10 B213 (Tr. Mosk. energ. in-ta, 1961, no. 34, 16-23)

TEXT: In the analysis of pulse operating conditions of elements in transistorized digital computers it is necessary to take into account the time variation of base resistance. An investigation into the course of base resistance variation in a number of transistor types (П-13 (P-13), П-15 (P-15)) is described. Oscillographic studies are compared with the results of a mathematical analysis. The method used enables the time constant of carrier life in the saturation regime to be found. 3 figures. 4 references. /Abstracter's note: Complete translation/

1/B

Card 1/1

STAROSTIN, A.M.

Determining the geodetic azimuth from observations of the passage of stars through the meridian. Trudy TSNIIGAIK. no.147:35-55 '62. (MIRA 15:9)

(Azimuth)

L 16938-63 EWT(1)/BDS/EEC(b)-2/ES(w)-2 AFFTC/ASD/ESD-3/AFWL/SSD
Po-4/Pab-4/Pi-4
ACCESSION NR: AP3005277 S/0056/63/045/002/0260/0267

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73

AUTHOR: Veklenko, B. A.; Starostin, A. N.

TITLE: Optimal system of basis functions in the theory of collisions between electrons and atoms

SOURCE: Zhur. eksper. i teoret. fiz., v. 45, no. 2, 1963, 260-267

TOPIC TAGS: electron atom collision, solution expansion, optimal basis function, inelastic process

ABSTRACT: It is shown that the solution obtained for the integro-differential collision equations by expanding the system of integro-differential equations into a set of eigenfunctions of the Hamiltonian of the unperturbed atom is not optimal from the point of view of rapid convergence of the series. A system of equations is obtained defining an optimal set of basis functions for arbitrary values of the electron energy smaller than the ionization potential of the atom. All the possible inelastic processes are taken into account. Specific phase shift calculations are made for the elastic scattering of an electron of low energy by a hydrogen atom, with the extension to any other atom entailing no principal dif-

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L 16938-63

ACCESSION NR: AP3005277

3

ficulties. "We consider it our pleasant duty to thank L. M. Biberman and G. E. Norman for a discussion of the results of the work." Orig. art. has 20 formulas and 1 table.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power Institute)

SUBMITTED: 25Jan63 DATE ACQ: 06Sep63 ENCL: 00

SUB CODE: PH NO REF SOV: 003 OTHER: 013

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L 3966-66 EWT(1)

ACCESSION NR: AP5025291

UR/0051/65/019/004/0487/0489
539.192

48
B

44,55 44,55 44,55
21,44,55

AUTHOR: Biberman, L. M.; Mnatsakanyan, A. Kh.; Starostin, A. N.

TITLE: The connection between the probabilities of radiation processes of the second order perturbation theory

SOURCE: Optika i spektroskopiya, v. 19, no. 4, 1965, 487-489

TOPIC TAGS: perturbation theory, Raman scattering, two photon absorption, Einstein coefficient, spontaneous emission, quantum electrodynamics

ABSTRACT: An attempt is made to relate spontaneous and stimulated Stokes and anti-Stokes Raman scattering processes to spontaneous and stimulated two-photon absorption and emission. The probabilities of these second-order processes in nonrelativistic approximation are determined by universal amplitudes defined in the plane of two frequencies. Knowledge of the amplitude of any one of the processes as an analytical function of the frequency makes it possible, at least in principle, to unequally determine the amplitudes of the other processes, using the reversibility and the cross-symmetry principles. This makes it possible to obtain a relationship between these processes under certain simplifying conditions. The authors show that in the dipole

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L 3966-66

ACCESSION NR: AP5025291

approximation unique relationships exist between the universal amplitudes of the emission and the anti-Stokes Raman scattering processes (one is equal to the negative of the other). Using the formulas given and the relationship between the Einstein coefficients it is possible to establish a connection between any pair of the two groups of processes. Orig. art. has: 8 formulas and 1 figure. [CS]

ASSOCIATION: none

SUBMITTED: 08Sep64 ENCL: 00 SUB CODE: OP

NO REF SOV: 003 OTHER: 001 ATD PRESS: 4118

PC

Card 2/2

STAROSTIN, A.N.

Dynamic characteristics of alloyed transistors in input keying operation close to source voltage mode. Trudy MEI no.60 pt.1: 129-147 '65. (MIRA 19:1)

LITVAK, A.K.; POPOV, R.G.; STAROSTIN, A.P.

Investigation of highly concentrated aerosols. Trudy Inst. dvig. no.6:21-29 '62. (MIRA 16:5)

(Aerosols)

STAROSTIN, A.F. (Kazan', 40, ul. Novopesochnaya, d.63. kv.2)

Detection of tumor cells in th peripheral blood of cancer patients. Vop onk. 10 no.8:23-26 '64.

(MIRA 18:3)

1. Iz kafedry khirurgii i onkologii (zav. - zasluzhennyy deyatel' nauki RSFSR prof. Yu.A.Ratner) Kazanskogo Gosudarstvennogo instituta dlya usovershenstvovaniya vrachey (rektor - dotsent Kh.Z.Akhunzyanov) na baze 5-y gorodskoy bol'nitsy (glavnyy vrach N.I.Polozova).

STAROSTIN, B.A.

Relation between natural and phylogenetic systems of angiosperms
from the historical point of view. Biul. MOIP. Otd. biol. 69
no. 3:134-142 My-Je '64. (MIRA 17:7)

SOKOLOVA, S.M.; STAROSTIN, B.A.; SHATALINA, M.S.; KRESHTAPOVA, V.N.;
SKVORTSOV, A.K.; GOLYSHEVA, M.D.; DUNDIN, Yu.K.; PODLESSKIY, G.I.;
SHKODA, A.M.; DONSKAYA, T.N.; MURTAZANOVA, E.Sh.; LOBACHEV, V.S.;
VORNOV, A.G.; SKOKOVA, N.N.

Brief news. Biul.MOIP.Otd.biol. 70 no.5:130-131 S-O '65.
(MIRA 18:12)

[illegible]

URMAYEV, N.A.; STAROSTIN, F.A., red.; SHLENSKIY, I.A., tekhn.red.

[Studies in mathematical cartography] Issledovaniia po matematicheskoi kartografii. Moskva, Izd-vo geodez. lit-ry, 1953. 107 p. (Leningrad, TSentral'nyi nauchno-issledovatel'skii institut geodezii, aeros"emki i kartografii. Trudy, no.98). (MIRA 10:12)
(Cartography)

NiKOLAYEV, A.S.

STHROSTIN, F. A.

AUTHOR: Podobedov, N. S., Docent SOV/154-58-2-11/2

TITLE: Chronicle (Khronika) I

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1958, Nr 2, pp 107-109 (USSR)

ABSTRACT: More than 500 specialists participated in the scientific and technical conference on geodesy, aerophotography, and cartography held from October 24 to 28, 1957. The following persons spoke in the plenary sessions of the conference: A. N. Barnnov, Head of the GUGK, on: "Soviet Geodesy, Aerophotography, and Cartography over the Past Forty Years." A. S. Nikolayev, Major-General of the Technical Troops: "The Part Played by Geodesy in the Defense of the USSR." Professor G. V. Romanovskiy: "The Present State and Perspective Development of Aerophotography in the USSR." Professor P. S. Zakatov: "The Present State and Fundamental Tasks of Geodetic Instruction in the USSR." Docent N. S. Podobedov: "Today's Topographical Maps and the Fundamental Problems and Ways of Perfecting the Maps." Yu. D. Bulanzhe, Doctor of Physical-Mathematical Sciences: "Soviet Participation in the International Geophysical Year." In the section on geodesy reports were given by the following persons: V. A.

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Velichko, Candidate of Technical Sciences, reported on "The Use of Light Locations for the Establishment of Geodetic Nets." S. V. Yeliseyev, Docent, spoke on "The Tasks and Present State of Production of Geodetical Instruments." Docent A. N. Kuznetsov reported on "The Present State and Possibilities of Development of Astronomy." Engineer V. I. Shillinger spoke on "The Present State and Possibilities for Development of Terrain Leveling Instruments." In the section on aerophotographical geodesy Professor M. D. Konshin gave a lecture on "The Determination of the Outer Orientation of Flying Elements, and Methods for Evaluating the Precision of the Instruments Used." Docent A. I. Shershen' reported on "The Basic Tasks of Further Developing Aerial Cameras." Engineer I. D. Kargopolov spoke on "The Rectification of Photogrammetrical Nets." L. M. Gol'dman, Candidate of Geographical Sciences, dealt with the problems of topographical deciphering of aerial photographs. In the section on cartography Docent F. A. Starostin spoke on "The Fundamental Problems of Mathematical Cartography." Professor Yu. V. Filippov discussed the achievements and prospects in the field of maps and atlantes in the USSR. P. K. Koldayev, Candidate of Technical Sciences, spoke on "Ways and Means for Perfecting the Stereoscopic Reproduction of the Map Relief." Docent I. P. Zarutskaya spoke on "Cartographing Climatic Conditions in the USSR." M. P. Bardyukov, Candidate of Technical Sciences, reported on "Non-Argentiferous Photosensitive Layers and Transparent Bases in Cartography." Engineer B. A. Merkulov spoke on "The Application of Microfilm Photographs in Cartography."

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STAROSTIN, F.A., kand. tekhn. nauk dots.

Principal paths of the development of mathematical cartography.
Trudy MIIGAIK no.31:87-95 '59. (MIRA 13:3)
(Map projection)

URMAYEV, Nikolay Andreyevich, geodezist, kartograf [deceased]; STAROSTIN, F.A., red.; SHAMAROVA, T.A., red.izd-va; SUNGUROV, V.S., tekhn.red.

[Fundamentals of mathematical cartography] Osnovy matematicheskoi kartografii. Moskva, Izd-vo geodez. lit-ry, 1962. 127 p. (Moscow, TSentral'nyi nauchno-issledovatel'skii institut geodezii, aeros"emki i kartografii. Trudy, no.144.). (MIRA 15:5)
(Cartography)

Starostin G

KAZARYAN, S.; STAROSTIN, G.

In the new harbor. Mor.flot 17 no.11:12-14 N '57. (MIRA 10:12)

1.Nachal'nik porta Nakhodka (for Kazaryan). 2.Sekretar' partkoma porta Nakhodka (for Starostin).
(Vladivostok--Harbors)

RUMANIA / Cytology. General Cytology. Cytology of Plants. B-2

Abs Jour: Ref Zhur-Biol., No 18, 1958, 80962.

Author : Starostin, G. P.
Inst : Not given.
Title : Concerning the Condition of the Chloroplasts in the Bark of Trees and Leaves of Evergreen Plants in the Winter Period. (Cbservatii asupra starii cloropastelor din scoarta arborilor si din frunzele persistente, in timpul iernii.)

Orig Pub: An. stiint. Univ. Iasi, 1956, Sec. 2, No 2, 211-236.

Abstract: In the course of the winter periods of the years 1951-1955, there was investigated, on live and fixed materials, the condition of chloroplasts in the bark cells of Tilia tomentosa, Acer negundo, Morus alba, Sopnoro japonica,

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ology. General Cytology. Cytology of B-2
Plants.

Abs Jour: Ref Zhur-Biol., No 18, 1958, 80962.

Abstract: Capinus betulus, Fagus silvatica, as well as in the leaves of evergreen plants, Mahonia aquifolium, Buxus sempervirens, Picea excelsa, Abies alba, which are grown in the botanical garden of the University of Jassy. The green plastids retained their individuality even in the coldest winters (below -20°). The observable, by some authors, agglutination of the chloroplasts in wintertime was effected by the traumatism, isolation or various chemical reagents. Under the influence of utilizable fixatives - Chelli, Rego, and Alcohol - protoplasm shrinks and takes on a cellular structure, the nucleus becomes smaller, the chloroplasts become deformed; they are distinguished with difficulty and may easily be mistaken for the agglutinated mass of plastids. In

Card 2/3

DOBRESCU, Constantin; EFTIMIE, Elena; STAROSTIN, Glafira

Teratological cases in Angiospermae. Anal St Jassy II 10: 137-146 '64.

STAROSTIN, I. (Moscow)

Simplest stereometrical models. Mat.v shkole no.3:52-53 My-Je '55.
(Mensuration) (MLRA 8:7)

STAROSTIN, I. G.: Master Tech Sci (diss) -- "Investigation of methods of tightening the threaded connections of aircraft engines". Moscow, 1958. 20 pp (Min Higher Educ USSR;, Moscow Order of Lenin Aviation Inst im Sergo Ordzhonikidze), 150 copies (KL, No 7, 1959, 126)

SVESHNIKOV, Ivan Petrovich, kand.tekhn.nauk [deceased]; STAROVEROV,
Ivan Grigor'yevich, inzh.; BELOUSOV, V.V., inzh., retsenzent;
STESHENKO, A.L., inzh., retsenzent, nauchnyy red.; NINEMYAGI,
D.K., red.izd-va; TEMKINA, Ye.L., tekhn.red.

[Practical sanitary engineering] Proizvodstvo sanitarno-tekhnicheskikh rabot. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1960. 476 p. (MIRA 14:3)
(Sanitary engineering)

L 46317-65 EWT(d)/EWT(l)/EPA(s)-2/EWT(m)/EWP(w)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/
EWP(b)/EWA(c) Pf-4 JD/HM

ACCESSION NR: AR5006244 S/0276/64/000/011/B062/B062

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya. Svodnyy tom, Abs. 11B320

26
B

AUTHOR: Starostin, I. G.

TITLE: Bolt torsion during tightening of the nut

CITED SOURCE: Tr. Kuybyshevsk. aviats. in-t, vyp. 17, 1963, 51-59

TOPIC TAGS: mechanical fastener, mechanical stress, metal friction

417

TRANSLATION: The article deals with the effect of the coefficient of friction in a threaded joint on tension in the body of a bolt at constant torque. It is shown analytically that torsion in the bolt is produced not only by friction in the thread but also by the pressure normal to the helix surface. Because of this, not only is there no increase in torque, but there may even be a reduction. Experimental investigation of the effect of the number of repeated tightenings of a nut on the coefficient of friction in the thread of an unlubricated galvanized bolt established a rather sharp increase in this coefficient with the number of tightenings. G. Kononenko.

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I 46317-65

ACCESSION NR: AR5006244

SUB CODE: IE, MM

ENCL: 00

Card 2/2

STARCSTIN, I. I.

21379 STAROSTIN, I. I. Helbef rossii po dannym Knigi, glagolemoy bolbshoy yaertezh. Voprosy geografii, SB. 11, 1949, S. 163-74.

SO: Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949.

STAROSTIN I.I.

STAROSTIN, I.I., dots.; NIKITIN, N.D., kand. geograf. nauk; YANIKOV, G.V., dots.; SMIRNOVA, M.I., tekhn.red.

[Programs of pedagogical institutes; principles of topography and cartography] Programmy pedagogicheskikh institutov; osnovy topografii i kartografii. Moskva, Gos.uchebno-pedagog. izd-vo M-va prosv. RSFSR, 1957. 18 p. (MIRA 11:3)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye vysshikh i srednikh pedagogicheskikh uchebnykh zavedenii.
(Topography--Study and teaching)
(Cartography--Study and teaching)

STAROSTIN, Ivan Il'ich; YANIKOV, Georgiy Vladimirovich; TEREKHINA, G.I., red.; ZAYTSEV, K.F., red.kart; KOZLOVSKAYA, M.D., tekhn.red.

[Fundamentals of topography and cartography] Osnovy topografii i kartografii. Moskva, Gos.uchebno-pedagog.izd-vo M-va prosv.RSFSR, 1959. 367 p. ___ Album. 30 p. of maps. (MIRA 12:12)
(Topographical surveying) (Cartography)

PROCESSES AND PROPERTIES INDEX

Ca

22

Steam condensation from steam pumps used in the cracking unit. I. I. Starostin. *Groznenskii Neftyanik* 5, No. 3-4, 60-4(1935).—Steam condensate is contaminated with oil from the pumps. The oil cannot be removed by filtration through sand or wood sawdust. Sand with a ppt. of Al_2O_3 and $CaCO_3$ completely removes the oil. Five references. A. A. Boehtlingk

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Thermal decomposition of sulfur compounds in petro-
leum during the distillation. B. Tarasov and I. I. Staros-
tin. *Groznenskii Neftyanik* **7**, No. 6, 38-45(1937). Of
the S compds. investigated those present in the Malgobek
crude oil are the most stable and those in the Ishimbaev
crude oil are the least stable. Thus on distg. the oils at
400°, 8% of S compds. present in the Malgobek crude oil
are decompd. while 25% and 10% of S compds. present in
the Kala and the Ishimbaev crude oils, respectively, are de-
compd. at the above temp. The decompn. is greatly
lowered by distg. *in vacuo*. In a rapid distn. at 500
67.4% of S compds. present in Kala and 79.4% present in
the Ishimbaev crude oil are decompd. At the same temp.
but under vacuum the decompns. are 50.3 and 54.2%, resp.
The time of cracking is important. With long time of
cracking secondary reactions take place which lead to the
formation of high-mol. cyclic compds. The latter remain
in the bottoms and thus decrease the total decompn.
Forty-three references. A. A. Boehtlingk

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

STAROSTIN, I.I.

Discussion. Probl. kin. i kat. 9:170-172 '57. (MIRA 11:3)
(Catalysts)

EMMANUILOVA, Ye.M.; MIRSKIY, Ya.V.; STAROSTIN, I.I.; MEZHLUMOVA, A.I.;
BUNIN, K.F.; MIZYAKOV, D.I.

Experimental industrial preparation of catalysts from Askan clay by acid activation. Trudy GrozNII no.4:82-90 '59. (MIRA 12:9)

(Askanite) (Catalysts)

25806 S/048/61/025/005/020/024
B117/B201

24.2200

AUTHORS: Sudakov, N. I., Savchenko, M. K., Zagirova, Ye. K., and Starostin, I. I.

TITLE: Measurement of hysteresis losses in a rotating magnetic field in thin films

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25, no. 5, 1961, 643-646

TEXT: The present investigation was the subject of a lecture delivered at a symposium on thin ferromagnetic films (Krasnoyarsk, July 4 to 7, 1960). Hysteresis losses were measured in the rotating field, and anisotropy constants in thin permalloy films were measured by the method of rotational moments. The magnetic field was created with the aid of an electromagnet designed at the fizicheskaya laboratoriya Krasnoyarskogo instituta tsvetnykh metallov im. M. I. Kalinina (Physical Laboratory of the Institute of Nonferrous Metallurgy imeni M. I. Kalinin) and built at the Krasnoyarskiy zavod tyazhelogo mashinostroyeniya (Krasnoyarsk Heavy Machine Building Plant). The mechanical moments acting in the magnetic

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B117/B201

Measurement of hysteresis losses in...

field upon a disk-shaped ferromagnetic film were measured by an anisometer developed by N. S. Akulov. The high sensitivity of the anisometer was achieved with a thin long tungsten suspension wire 0.1 mm in diameter and 0.5 m long. The scale for reading the rotation angle of the mirror was at a distance of 4.05 m from the anisometer. For the purpose of protecting against air movements the whole rotation system was placed into a duralumin housing with a light entry window made of glass. Experiments were conducted with permalloy films 400, 800, and 1300 Å thick. The films were prepared by thermal sputtering of molybdenum permalloy (80 % Ni, 17 % Fe, 3 % Mo) in vacuum ($4\cdot10^{-5}$ mm Hg). The metal was sputtered onto a glass backing heated to 300°C (disk 18 mm in diameter) in an outer magnetic field of 90 oe brought about by Helmholtz coils. It was established from tables for harmonic functions obtained by decomposing into their components by the Fourier method that the harmonic function with the largest amplitude has a period π. This points to the presence of a uniaxial anisotropy. On the basis of curves of moments, obtained for the three films concerned in a field of 8500 oe, it was possible to calculate the anisotropy constants: $K = 1.4\cdot10^3$ (1300 Å); $K = 0.85\cdot10^3$ (800 Å);

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S/048/61/025/005/020/024
B117/B201

Measurement of hysteresis losses in...

$K = 0.75 \cdot 10^3$ (400 Å). The hysteresis losses were calculated during a magnetic reversal cycle in rotating fields from the areas between the curves of moments using formula

$$Q_\tau = \int M d\psi$$

(M - value of mechanical moment, ψ - angle of rotation of the field). The areas were determined with the aid of a planimeter. The analysis of the difference curves of mechanical moments and the results found for each of the films in the calculation of hysteresis losses permit drawing the following conclusions: (1) on a rise of the field stress no changes are observed in the period of sinusoidal curves of moments. On a change of the field from 50 to 8500 oe the curves have a period equal to π, i.e., all specimens have uniaxial anisotropy; (2) the value of the maximum moment changes on a rise of the field strength in the same way as in the crystallographic anisotropy of single crystals, but proceeds more slowly in medium fields; with growing film thickness the maximum amount of the moment grows in the entire field strength range; (4) the hysteresis losses become larger in a slow field of rotation with growing field strength in the same way as in a cyclic magnetic reversal. This contradicts statements made by

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25806

Measurement of hysteresis losses in... S/048/61/025/005/020/024
B117/B201

N. S. Akulov for the rotation hysteresis in spatial single crystal specimens. According to that theory, hysteresis losses grow at the beginning up to a certain maximum, and vanish in fields exceeding the saturation field; (5) hysteresis losses are influenced by the film thickness. With growing thickness they become a little larger; (6) the films prepared without field with the aid of Helmholtz coils differ in no way, as to anisotropy, from films whose sputtering has taken place in the magnetic field of these coils. To bring about anisotropy in thin films it is probably sufficient for sputtering to take place in a field of a low intensity. Such a field may be created by the experimental conditions themselves: the field of the heating element of an electric heater as well as the earth's magnetic field. There are 6 figures and 8 references: 7 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Krasnoyarskiy institut tsvetnykh metallov im. M. I. Kalinina (Krasnoyarsk Institute of Nonferrous Metallurgy imeni M. I. Kalinin). Institut fiziki Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Physics of the Siberian Department of the Academy of Sciences USSR)

Card 4/4

40874

24.1900

S/181/62/004/009/001/045
B108/B186

AUTHORS: Drokin, A. I., Dylgerov, V. D., Sudakov, N. I., and Starostin, I. I.

TITLE: Temperature dependence of rotary-hysteresis losses in Mg-Mn ferrites

PERIODICAL: Fizika tverdogo tela, v. 4, no. 9, 1962, 2293-2296

TEXT: Magnetic moments and hysteresis losses of monocrystalline Mg-Mn ferrites were studied in a rotary magnetic field at various temperatures (-183°, +22°, +100°C) and at various field strengths (H from 700 to 4000 oe). Moment curves were found to be analogous to those of silicon iron which, like Ni and meteoritic Fe crystals, several authors have already investigated. Results: Akulov's theory was partly refuted on the ground that hysteresis losses did not drop to zero either at low (-195°) or at elevated (500-700°) temperatures. Single crystals, carefully prepared by the Institut poluprovodnikov AN SSSR (Institute of Semiconductors of the AS USSR), were precisely ground to the (110) face and etched in 30-% sulfuric acid. Powder figures were observed and photographed using a МБИ-6 (MBI-6) microscope. Magnetization was effected by means of a specially powerful

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B108/B186

Temperature dependence of ...

electromagnet with a small pole gap. High degree of rectangularity (98 %) was of special interest. While moment curves have the period π at lower H (up to 700 oe), they are characterized at higher H by the equation

$$M = \frac{k}{8}(2\sin 2\psi + 3\sin 4\psi),$$

where M - magnetic moment, ψ - the angle between the direction [001] and the field. Coincidence between the direct and inverse torque occurs only at -183°C. At this temperature, Akulov's theory is valid for H up to 1500 oe. With increasing temperatures and H values, the hysteresis losses reach their maximum value at 1200 oe: at +22°C about $9Q_r \cdot 10^{-2}$ erg/cm^3; afterwards the curve dips slightly and increases continuously from 2000-4000 oe; at +100°C the peak lies approximately at $5\ Q_r \cdot 10^{-2}$ erg/cm^3 and drops slightly over the range of 2000-4000 oe. The losses, however, never become zero. Until now there has been no theory able to explain the existence of hysteresis losses above 1500 oe. Observation of the domain structure dynamics drew attention to strongly distorted boundaries, ascribed to strong internal stresses and nonhomogeneities. The most prominent changes in the

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Temperature dependence of ...

S/181/62/004/009/001/045
B108/B186

domain structure were observed between 900 - 1000 oe of the rotary field. There are 5 figures.

ASSOCIATION: Institut fiziki Sibirskogo otdeleniya AN SSSR Krasnoyarsk (Physics Institute of the Siberian Department AS USSR, Krasnoyarsk)

SUBMITTED: February 1, 1962

Card 3/3

STAROSTIN, I. V.

USSR/Biology - Zoology
Parasitology

11 Dec 49

"A Species, New to the USSR, of Aquatic Woodlice (Stenasellus) From Turkmen and Its Significance in the Zoogeography of Central Asia," Ya. A. Birshteyn, I. V. Starostin, Sci Res Inst of Zool, Moscow State U imeni Lomonosov, 3½ pp, Turkman Affil, Acad Sci

"Dok Ak Nauk SSSR" Vol LXIX, No 5 p.691-94

Until 1941, when 32 specimens were found at the source of the Khodzha-Kaynar in Kugintantau Mts (Karlyuk Rayon), the Asellus aquaticus messerianus Birstein had been found only at the lower end of the Atrek River, near Bol'shoye Delini Lake, Turkmen, and in Central Asia. Details this species, called Stenasellus asiaticus nov. sp. Its habitat is in fissures of submerged rocks. Fact that such early tropical forms as the mollusk Melanoides tuberculatus (dating from the Paleogene), the Indian leech Hemiclepsis marginata asiatica, and the Stenasellus asiaticus have been preserved at this source in Kugitantau is of extraordinary interest. Submitted by Acad D. V. Nalivkin 24 Sep 49.

[redacted]

PA 152T2

ALIYEV, D.S.; STAROSTIN, I.V., redaktor; ZUBOVA, N.I., tekhnicheskiy redaktor.

[ichthyofauna of fresh-water lakes of the western Uzboy] Ikhtiofauna presnovodnykh ozer zapadnogo Uzboia. Ashkhabad, Izd-vo Akademii nauk Turkmenskoi SSR, 1953. 78p. (Akademiia nauk SSSR. Turkmenskii filial, Ashkhabad. Murgahskaia gidrobiologicheskaia stantsiia. Trudy, no.2) (MLRA 9:8)

(Uzboy--Fishes)

STAROSTIN, I.V.

History of hydrobiological investigations of bodies of water in the Murgab Basin. Trudy Murg.gidrobiol.sta. no.3:5-8 '55.
(MLRA 9:8)

(Murgab Valley--Fresh-water biology)

STAROSTIN, I.V.

Hydrobiological characteristics of bodies of water in the Murgab
Basin. Trudy Murg.gidrobiol.sta. no.3:9-39 '55. (MLRA 9:8)
(Murgab Valley--Fresh-water biology)

STAROSTIN, I.V.

New data on the paleogeography of the lower and southeastern Kara-Kum; biogeographical analysis of the fauna of the Amu-Darya and Murgab Basins. Trudy Murg.gidrobiol.sta. no.3:189-207 '55.

(Amu-Darya Valley--Fresh-water fauna)
(Murgab Valley--Fresh-wager fauna)

STAROSTIN, I.V.

Hydrobiology of the bodies of water left in the drying bed of the Tedzhen River. Trudy Murg.gidrobiol.sta. no.4:12-22 '58. (MIRA 15:8)

(Tedzhen Valley--Hydrobiology)

STAROSTIN, I.V.

Traplike vegetation sampler; methods of quantitative estimation of the fauna of fresh-water vegetation. Trudy Murg.gidrobiol.sta. no.4:233-237 '58. (MIRA 15:8)
(Hydrobiological research)

STAROSTIN, I.V.

Section for the Control of Marine Fouling and Shipworms. Okeanologiia 1 no.5:931 '61. (MIRA 15:3)
(Marine fouling--Congresses) (Shipworms--Congresses)

ZEVINA, G.B.; STAROSTIN, I.V.

Qualitative and quantitative changes in fouling in the Caspian Sea following the opening of the Volga-Don Canal. Trudy Inst. okean. 49:97-107 '61. (MIRA 15:1)

(Caspian Sea--Marine fouling)

ZEVINA, G.B.; STAROSTIN, I.V.

Interrelationships of new settlers and local fauna in the biocenoses of fouling of the Caspian Sea. Vop. ekol. 5:74-77 '62. (MIRA 16:6)

1. Institut okeanologii AN SSSR, Moskva.
(Caspian Sea--Marine fouling)

PONOMAREVA, Larisa Anatol'yevna; USACHEV, P.I., prof.[deceased], otv.red.; STAROSTIN, I.V., otv.red.; MAKAROV, B.M., red.izd-va; LAUT, V.G., tekhn. red.; UL'YANOVA, O.G., tekhn. red.

[Euphausiids of the northern half of the Pacific Ocean, their distribution and the ecology of the mass species] Evfauziidy severnoi poloviny Tikhogo okeana, ikh rasprostranenie i ekologiia massovykh vidov. Moskva, Izd-vo Akad. nauk SSSR, 1963. 139 p. (MIRA 16:4)

(Pacific Ocean--Euphausiacea)

ZEVINA, G.B.; KUZNETSOVA, I.A.; STAROSTIN, I.V.

Composition of fouling in the Caspian Sea. Trudy Inst. okean. 70:3-25 '63. (MIRA 17:7)

STAROSTIN, I.V.

Fouling on industrial water pipelines in our southern seas and some methods of controlling it. Trudy Inst. okean. 70:101-123 '63. (MIRA 17:7)

STAROSTIN, I.V.; PERMITIN, Yu.Ye.

Composition of species and quantitative development of macrofouling on the marine water-supply system of a metallurgical plant on the shores of the Sea of Azov. Trudy Inst. okean. 70: 124-141 '63. (MIRA 17:7)

STAROSTIN, I.V.; TURPAYEVA, Ye.P.

Settlement of the larvae of fouling organisms at water intake installations of a metallurgical plant (Sea of Azov). Trudy Inst. okean. 70:142-150 '63. (MIRA 17:7)

L 2126-66 EWT(1)/EWT(m)/EPF(c)/EPF(n)-2 IJP(c) GG
ACCESSION NR: AP5025359 UR/0181/65/007/010/2890/2893

44,55 44,55

AUTHOR: Starostin, K. L.; Tuturov, Yu. F.; Milovanov, Yu. P. 44,55 6.1

B

TITLE: The contribution of point defects and defect clusters to changes in mobility and concentration of carriers in n-Ge during irradiation with fast neutrons 19

SOURCE: Fizika tverdogo tela, v. 7, no. 10, 1965, 2890-2893

TOPIC TAGS: radiation effect, radiation damage, neutron bombardment, germanium, defect, Hall effect, semiconductor point defect, defect cluster

21,44,55

ABSTRACT: The changes in mobility and the Hall effect in n-type Ge were investigated during irradiation with fast neutrons. Samples with an initial concentration of electrons of about 2 x 10^{15} cm^{-3} were exposed to a flux of neutrons (60% of the neutrons had an energy in excess of 0.6 Mev) at 308 and 100K. The applied magnetic field was 1090 oe and its direction was changed at a frequency of ∿0.3 sec^{-1}. The variation of the Hall constant and the relative change in mobility as a function of the integrated neutron flux are shown in Fig. 1 of the Enclosure. The formulas derived by J. H. Crawford et al. and H. G. Juretschke et al. (Journal of applied physics, v. 30, 1959, p. 1204, and v. 27, 1956, p. 838, respectively), were used to calculate the contribution of point defects and groups

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L 2126-66.
ACCESSION NR: AP5025359

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of defects (disordered regions) to the changes of the Hall constant and the mobility. Analysis of data in Fig. 1 shows that the average size of the disordered region produced during irradiation at 100K is about 1.6 times larger than that produced at 308K. It was established that the contribution of groups of defects to changes of the Hall constant and the mobility is much greater at 100K than at room temperature. The mobility of electrons in the lattice remained constant, at least until the fraction of the volume occupied by regions of the space charge reached 0.45 ($\varphi = 3\cdot10^{14}$ n/cm^2) at 308K and 0.17 ($\varphi = 5.10^{13}$ n/cm^2) at 100K. Orig. art. has: 3 figures and 5 formulas. [CS]

ASSOCIATION: none

SUBMITTED: 26Feb65 ENCL: 01 SUB CODE: SS, NP

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4117

Card 2/3

L 2126-66

ACCESSION NR: AP5025359

ENCLOSURE: 01

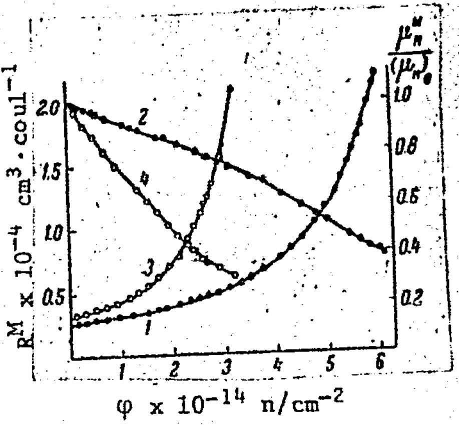

Fig. 1. Variation of the Hall constant R^M and mobility μ_H^M as a function of the integrated flux during irradiation.

1 - R^M, 2 - μ_H^M irradiated at 308K;
3 - R^M, 4 - μ_H^M irradiated at 100K.

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L 32029-65 EWT(m)/EPF(c)/EPF(n)-2/EWP(t)/EWP(b) Pr-4/Pu-4 IJP(c) JD/GG

ACCESSION NR: AP5005322 S/0181/65/007/002/0654/0655

AUTHOR: Starostin, K. L.; Tuturov, Yu. F.; Poretskiy, L. B.

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B

19

TITLE: Irradiation of n-Ge with fast neutrons

SOURCE: Fizika tverdogo tela, v. 7, no. 2, 1965, 654-655

27

TOPIC TAGS: germanium neutron irradiation, radiation defect, radiation effect, annealing, Hall constant

ABSTRACT: The annealing of radiation defects produced in n-type Ge irradiated at low temperatures by fast neutrons (over 60 percent of the neutrons had energies greater than 0.6 Mev) was investigated. Samples with an initial concentration of electrons of $\sim 1.6 \times 10^{15}$ cm^{-3} were bombarded with an integrated flux of 1.3×10^{14} neutrons/cm^{-2} at 103K. The sample was then heated for 30 min to a temperature of $\sim$ 250K and cooled to the initial temperature. The temperature dependence of the Hall constant (R) and the electrical conductivity (ρ) measured during annealing indicated the presence of four annealing stages. The first stage, between 103 and 107K, is characterized by an increase in R and a decrease in ρ. During the second stage (170—190K), R decreases while ρ remains almost constant. During the third and fourth stages, R reaches a peak at 225K and begins to decrease; ρ also reaches a weak maximum. The qualitative behavior of the samples during the first,

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third, and fourth stages can be explained, as they were in a previous paper (FTT, 6, 1062, 1964), by the "maturing" of defects, annealing of donors, and annealing of acceptors, respectively. The fourth annealing stage, which other researchers had not observed during isochronous and isothermal annealing, is attributed to the freeing of electrons from a donor level which is later annealed, or to the annealing of an acceptor level. Orig. art. has: 1 figure. [CS]

ASSOCIATION: none

SUBMITTED: 15Jul64 ENCL: 00 SUB CODE: NP

NO REF SOV: 001 OTHER: 003 ATD PRESS: 3199

Card 2/2

STAROSTIN, L.Ya.; PAVELKO, I.A., inzh. po ratsionalizatsii i izobretatel'stvu

Efficiency experts are active in the automation and mechanization of operational processes. Vest. sviazi 20 no.9:30-32 S'60. (MIRA 13:10)

1. Glavnyy inzhener Rovenskogo oblastnogo upravleniya svyazi.
(Telecommunication)

STAROSTIN, M.G.

434. Starostin, M. G., Basic properties of circulating currents in straight channels (in Russian), *Gidrotekh. i. Melior.* no. 7, 16-21, July 1953.

Transverse components of velocity in a cross section are investigated and two extreme types are represented, namely, a plain circulating motion in cross section and an onward helicoidal motion. All uniform currents have usually transverse circulations. Practical application of theory: control of bed erosion and silt protection in inlets.

S. Kolupaila, USA

124-58-9-10228

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 9, p 116 (USSR)

AUTHOR: Starostin, M. G.

TITLE: Hydrodynamic-pressure Determination by Means of the Hydrodynamic-force Balance (Opredeleniye gidrodinamicheskogo davleniya vzveshivaniyem na gidrodinamicheskikh vesakh)

PERIODICAL: Nauchn. tr. Ukr. n.-i. in-t gidrotekhn. i melior., 1956, Nr 77/3, pp 223-233

ABSTRACT: Description of a method for the determination of the dynamic pressure of a liquid by placing a body into the flow and measuring the forces exerted upon it by means of a hydrodynamic-force balance. A description is offered of the design and operating principle of various types of balances: a rigid six-component balance, a six-component balance with wire suspension for the model, and a three-component balance with wire suspension of the model. Some results are adduced on tests for the determination of the transverse and longitudinal components of the hydrodynamic pressure coefficient on a jet-deflector vane, also the moment of the total hydrodynamic pressure relative to a vertical axis in terms of various factors. The data obtained indicate the potential value of hydrodynamic-force balances in hydraulic investigations. T. B. Kurova

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1. Liquids--Pressure
2. Liquids--Hydrodynamic characteristics

124-58-9-9897

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 9, p 61 (USSR)

AUTHOR: Starostin, M. G.

TITLE: The Transverse Stability of a Twin-row Hinged Metallic Jet-control System for the Removal of Bottom Sediments (Poperechnaya ostoychivost' dvukhryadnoy sharnirnoy metallicheskoy struyenapravlyayushchey sistemy po otvlecheniyu donnykh nanosov)

PERIODICAL: Tr. Vses. n.-i. in-ta gidrotekhn. i melior., 1957, Vol 29, pp 51-61

ABSTRACT: Bibliographic entry

1. Liquid jets--Equipment 2. Liquid jets--Stability 3. Liquid jets--Applications 4. Ocean bottom--Sampling

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S/124/62/000/005/033/048
D251/D308

AUTHOR: Starostin, M.G.

TITLE: Measuring small velocities of water by a semi-conductor micro-thermal resistance

PERIODICAL: Referativnyy zhurnal. Mekhanika, no. 5, 1962, 134, abstract 5B872 (V sb. Novyye metody izmereniy i pribory dlya gidravlich. issled. M., AN SSSR, 1961, 60-64)

TEXT: A detailed description is given of a device constructed on the principle of the thermo-anemometer with the application of a semi-conductor thermistor, included in the bridge scheme of a constant current. To eliminate the initial temperature of the water, the thermistor is first fed by a small current. For the subsequent measurement of the velocity of the stream it is fed by a strong current. Calibration graphs are shown and practical recommendations given. [Abstractor's note: Complete translation].

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BAKHNITSKIY, S.A.; STAROSTIN, M.N., redaktor; SPIRIDONOV, N.F., tekhnicheskiy redaktor

[Agronomist Alevtina Boikova; a sketch] Agronom Alevtina Boikova; ocherk. [Kuibyshev] Kuibyshevskoe kn-vo, 1954. 23 p. (MIRA 9:8)
(Boikova, Alevtina Terent'evna)

STAROSTIN, M.N.

Substitute green fallows for clean fallows. Zemledelie 25 no.11:41 N '63. (MIRA 17:2)

1. Narymskaya gosudarstvennaya selektsionnaya stantsiya.

STAROSTIN, N. Maj. and GRIGOR'YEV, N. Eng. Lt. Col.

"Aircraft Interception Radar Stations," from the Book Modern Military Technology, 1956, page 176.

Translation1114585

STAROSTIN, N.A., inzh.-podpolkovnik

Apparatus for bathing the wounded. Voen.-med. zhur. no.6:64-65
Je '58. (MIRA 12:7)
(WOUNDED AND SICK
portable field appar. for bathing (Rus))
(MEDICINE, MILITARY AND NAVAL
portable field appar. for bathing wounded (Rus))

[illegible]

Gearing

Damping the geared transmission for main oil pumps of turbines. Elek, sta. 23, no. 8,1952

9. Monthly List of Russian Accessions, Library of Congress, ~~November~~ 195~~3~~, Uncl.
2

STAROSTIN, N.S., gornyy inzhener.

Take the needs of the Pechora Coal Basin into account. Mekh. trud.
rab. 9 no.11:22 N '55. (MLRA 9:2)
(Pechora Basin)

ROZENBERG, V. I.; STAROSTIN, N. V.

Extension of Fick's equation in case of thermal diffusion.
Trudy Giprotsement no. 26:193-195 '63. (MIRA 17:5)

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S/089/61/011/003/001/013
B102/B138

21,3100

AUTHORS: Venikov, N. I., Golovanov, G. N. Konyayev, V. P., Starostin, N. V., Chumakov, N. I.

TITLE: Acceleration of He_3 to 35 Mev in the 150-cm cyclotron

PERIODICAL: Atomnaya energiya, v. 11, no. 3, 1961, 213-216

TEXT: The fact that, on the one hand, He_3 nuclei are much used as bombarding particles, while, on the other, considerable losses occur when they are accelerated in standard cyclotrons, caused the authors to develop a "return system" which was tested on the cyclotron of the Ordena Lenina Institut atomnoy energii im. I. V. Kurchatova (Order of Lenin Institute of Atomic Energy imeni I. V. Kurchatov). A description of this system is given. Fig. 1 shows a diagram of this so-called "gas return system". The gas is pumped from a cylinder into the system by a pump that automatically controls the flow rate at regulated pressure (100-200 mm Hg). Most of the gas is evacuated by two diffusion pumps and a forepump, and after compression is again fed into the He_3 system over a 1

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Acceleration of He$_3$ to 35 Mev ...

system of traps. The traps retain the various impurities contained in the gas (oil, water, nitrogen, oxygen, Hg). All possible ways are employed to reduce gas leakage and infiltration of impurities into the gas cycle. The mechanical pumps have water-cooled oil battle. This gas return system makes it possible to reduce He$_3$ losses to 5 cm^3/hr. The highest energy to which He$_3$ ions can be accelerated is determined by the highest attainable frequency of the resonant circuit, namely, 11.2 Mc/sec. A magnetic field strength of 11,000 oe corresponds to this frequency. On a 67-cm radius He$_3^{2+}$ ions attain about 35 Mev. To prevent ion losses during acceleration, and during deflection from the magnetic field, focusing diaphragms are provided on the duants. The ion source is moved to a predetermined distance from the magnetic field center. Measurement of the dependence of the ion current on acceleration radius has shown that from 40 cm onwards, no more ion losses occur. A system of hyperbolic electrodes serves to deflect the ions. The ion current on a target at 12 m distance from the cyclotron has the following parameters: energy of He$_3^{+2}$ ions: 35 Mev;

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Acceleration of He_3 to 35 Mev ...

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energy spread: ± 0.3%; half-width of beam on target: 8 mm (horizontal) and < 8 mm (vertical); mean amperage: 30 μa. 10 μa is normally used. N. A. Vlasov and S. P. Kalinin are thanked for their interest, V. I. Lamunin and N. N. Khaldin for constructing the gas return system, N. V. Kartashov for adjusting the pulsed supply of the ion source. There are 5 figures and 4 references: 1 Soviet and 3 non-Soviet. The three references to English-language publications read as follows: H. Wegner, W. Hall. Rev. Scient. Instrum., 29, No. 12, 1100 (1958); I. Sremlin, W. Hardy, H. Shaylor. J. Scient. Instrum., 36, No. 9, 390 (1959); A. Morton, W. Smith. Nucl. Instrum. and Methods, 4, 37 (1959).

SUBMITTED: January 30, 1961

Legend to Fig. 1: (1) Central vacuum pump; (2) diffusion pump; (3) forepump; (4) trap for oil vapors; (5) carbon traps; (6) trap for mercury vapors; (7) mercury pressure regulator; (8) needle-valve flow regulator; (9) vacuum gauge no. 1.

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PAVINSKIY, P.P.; STAROSTIN, N.V.

Quadrupole absorption of light in a cuprous oxide crystal.
Vest. LGU 16 no.4:141-142 '61. (MIRA 14:3)
(Copper oxide crystals)

S/054/62/000/002/002/012
B163/B138

24,7/00

AUTHOR: Starostin, N. V.

TITLE: Influence of a magnetic field on the edge of the proper absorption band in crystals

PERIODICAL: Leningrad. Universitet. Vestnik. Seriya fiziki i khimii, no. 2, 1962, 17-20

TEXT: The absorption coefficient for electromagnetic radiation is calculated which corresponds to electron transitions from the valence band to the conduction band of a crystal. The method is the same (δ-function method) as employed in former papers by D. S. Bulyanitsa and P. P. Pavinskiy, but in extension of those papers it is not assumed that the effective electron and hole masses are equal. The matrix elements for allowed and forbidden transitions are calculated. From these, expressions for the absorption coefficients are derived for cases where the radiation is polarized in a direction parallel or perpendicular to the magnetic field. The frequency dependence of the absorption coefficient is not the same for both directions of polarization. For polarization perpendicular to the field

Vb

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